GCC CTC GCA GAG GGC ACT CGG ATC TTC GAT CCG GTC ACC GGT ACA ACG CAT CGC ATC GAG GAT GTT GTC GgT GGG CGC AAG CCT ATT CAT GTC GTG GCT GCT GCC AAG GAC GGA ACG CTG CAT GCG CGG CCC GTG GTG TCC TGG TTC GAC CAG GGA ACG CGG GAT GTG ATC GGG TTG CGG ATC GCC GGT GGC GCC ATC cTG TGG GCG ACA CCC GAT CAC AAG GTG CTG ACA GAG TAC GGC TGG CGT GCC GCC GGG GAA CTC CGC AAG GGA GAC AGG GTG GCG CAA CCG CGA CGC TTC GAT GGA TTC GGT GAC AGT GCC CCG ATT CCG GCG CGC GTG CAG GCG CTC GCG GAT GCC CTG GAT GAC AAA TTC CTG CAC GAC ATG CTG GCG GAA GAA CTC CGC TAT TCC GTG ATC CGA GAA GTG CTG CCA ACG CGG CGG GCA CGA ACG TTC GGC GTT GTT GTA CAC AAC (SEQ ID NO: 1)

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EELRYSVIREVLPTRRARTFGLEVEE
LHTLVAEGVVVHN(SEQIDNO: 2)

GCC CTC GCA GAG GGC ACT CGG ATC TTC GAT CCG GTC ACC GGT ACA ACG CAT CGC ATC GAG GAT GTT GTC GgT GGG CGC AAG CCT ATT CAT GTC GTG GCT GCT GCC AAG GAC GGA ACG CTG CAT GCG CGG CCC GTG GTG TCC TGG TTC GAC CAG GGA ACG CGG GAT GTG ATC GGG TTG CGG ATC GCC GGT GGC GCC ATC cTG TGG GCG ACA CCC GAT CAC AAG GTG CTG ACA GAG TAC GGC TGG CGT GCC GCC GGG GAA CTC CGC AAG GGA GAC AGG GTG GCG CAA CCG CGA CGC TTC GAT GGA TTC GGT GAC AGT GCC CCG ATT CCG GCG CGC GTG CAG GCG CTC GCG GAT GCC CTG GAT GAC AAA TTC CTG CAC GAC ATG CTG GCG GAA GAA CTC CGC TAT TCC GTG ATC CGA GAA GTG CTG CCA ACC CGC GCG GCA CGA ACG TTC GGC GTC GAG GTC GTC GAG GAA CTC CGC TTT GTA CAC AAC (SEQ ID NO: 3)

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ALAEGTRIFDPVTGTTHRIEDVVGGR
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GCC CTC GCA GAG GGC ACT CGG ATC TTC GAT CCG GTC ACC GGT ACA

ACG CAT CGC ATC GAG GAT GTT GTC GgT GGG CGC AAG CCT ATT CAT GTC

GTG GCT GCT GCC AAG GAC GGA ACG CTG CAT GCG CGG CCC GTG GTG

TCC TGG TTC GAC CAG GGA ACG CGG GAT GTG ATC GGG TTG CGG ATC

GCC GGT GGC GCC ATC cTG TGG GCG ACA CCC GAT CAC AAG GTG CTG

ACA GAG TAC GGC TGG CGT GCC GCC GGG GAA CTC CGC AAG GGA GAC

AGG GTG GCG CAA CCG CGA CGC TTC GAT GGA TTC GGT GAC AGT GCG

CCG ATT CCG ACA AGT TTG TAC AAA AAA GCA GGC AGC GCG CGC GTG CAG GCG CTC GCG GAT GCC CTG GAT GAC AAA TTC CTG CAC GAC ATG CTG GCG GAA GAA CTC CGC TAT TCC GTG ATC CGA GAA GTG CTG CCA ACG CGG CGG GCA CGA ACG TTC GgC CTC GAG GAA CTG CAC ACC CTC GTC GCC GAA GGG GTc cTT GTA CAC AAC (SEQ ID NO: 7)

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ACA AGT TTG TAC AAA AAA GCA GGC AGC (SEQ ID NO: 12)

ACA AGT TTG TAC AAA AAA GCA GGC A (SEQ ID NO: 13)

attL5 CAACTTTATACAAAGTTGGCA (SEQ ID NO:14)
GTTGAAATAATATGTTTCAACCGT

attR5 GTTCAACTTTATTATACAAAGTTGT (SEO ID NO:15) CAAGTTGAAATATATGTTTCAACA attB11 CAACTTTTCTATACAAAGTTGT (SEQ ID NO:16) GTTGAAAAGATATGTTTCAACA (SEQ ID NO:17) attP11 GTTCAACTTTTCTATACAAAGTTGGCA CAAGTTGAAAAGATATGTTTCAACCGT attL11 CAACTTTTCTATACAAAGTTGGCA (SEO ID NO:18) GTTGAAAAGATATGTTTCAACCGT attR11 GTTCAACTTT<u>TCTATAC</u>AAAGTTGT (SEO ID NO:19) CAAGTTGAAAAGATATGTTTCAACA attB17 CAACTTTTGTATACAAAGTTGT (SEQ ID N0:20) **GTTGAAAACATATGTTTCAACA** attP17 GTTCAACTTTTGTATACAAAGTTGGCA (SEO ID N0:21) CAAGTTGAAAACATATGTTTCAACCGT (SEQ ID N0:22) attL17 CAACTTTTGTATACAAAGTTGGCA GTTGAAAACATATGTTTCAACCGT attR17 GTTCAACTTTTGTATACAAAGTTGT (SEQ ID N0:23) CAAGTTGAAAACATATGTTTCAACA attB19 CAACTTTTTCGTACAAAGTTGT (SEQ ID N0:24) **GTTGAAAAAGCATGTTTCAACA** attP19 GTTCAACTTTTTCGTACAAAGTTGGCA (SEQ ID N0:25) CAAGTTGAAAAAGCATGTTTCAACCGT (SEQ ID N0:26) attL19 CAACTTTTTCGTACAAAGTTGGCA **GTTGAAAAACATATGTTTCAACCGT** attR19 GTTCAACTTTTTCGTACAAAGTTGT (SEQ ID N0:27) CAAGTTGAAAAAGCATGTTTCAACA attB0 AGCCTGCTTTTTTATACTAACTTGAGC (SEQ ID N0:28) TCGGACGAAAAAATATGATTGAACTCG attP0 GTTCAGCTTTTTTATACTAAGTTGGCA (SEQ ID NO:29) CAAGTCGAAAAAATATGATTCAACCGT attL0 AGCCTGCTTTTTTATACTAAGTTGGCA (SEQ ID NO:30)

TCGGACGAAAAAATATGATTCAACCGT

- attR0 GTTCAGCTTT<u>TTTATACTAAC</u>TTGAGC (SEQ ID N0:31) CAAGTCGAAAAAATATGATTGAACTCG
- attB1 AGCCTGCTTT<u>TTTGTAC</u>AAACTTGT (SEQ ID NO:32)
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- attP1 GTTCAGCTTT<u>TTTGTAC</u>AAAGTTGGCA (SEQ ID N0:33) CAAGTCGAAAAAACATGTTTCAACCGT
- attL1 AGCCTGCTTT<u>TTTGTACAAAGTTGGCA</u> (SEQ ID N0:34)
 TCGGACGAAAAAACATGTTTCAACCGT
- attR1 GTTCAGCTTT<u>TTTGTAC</u>AAACTTGT (SEQ ID NO:35) CAAGTCGAAAAAACATGTTTGAACA
- attB2 ACCCAGCTTT<u>CTTGTAC</u>AAAGTGGT (SEQ ID N0:36)
 TGGGTCGAAAGAATATGTTTCACCA
- attP2 GTTCAGCTTT<u>CTTGTAC</u>AAAGTTGGCA (SEQ ID NO:37)
- attL2 ACCCAGCTTT<u>CTTGTAC</u>AAAGTTGGCA (SEQ ID NO:38)
 TGGGTCGAAAGAACATGTTTCAACCGT
- attR2 GTTCAGCTTT<u>CTTGTAC</u>AAAGTGGT (SEQ ID NO:39) CAAGTCGAAAGAACATGTTTGACCA
- attB5 CAACTTT<u>ATTATAC</u>AAAGTTGT (SEQ ID NO: 40) GTTGAAATAATATGTTTCAACA
- attP5 GTTCAACTTT<u>ATTATAC</u>AAAGTTGGCA (SEQ ID N0:41)
 CAAGTTGAAATAATATGTTTCAACCGT
- attB20 CAACTTT<u>TTGGTAC</u>AAAGTTGT (SEQ ID N0:42) GTTGAAAAACCATGTTTCAACA
- attP20 GTTCAACTTT<u>TTGGTAC</u>AAAGTTGGCA (SEQ ID N0:43)
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- attL20 CAACTTT<u>TTGGTAC</u>AAAGTTGGCA (SEQ ID N0:44) GTTGAAAAACCATGTTTCAACCGT
- attR20 GTTCAACTTT<u>TTGGTAC</u>AAAGTTGT (SEQ ID N0:45) CAAGTTGAAAAACCATGTTTCAACA

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attL21 CAACTTT<u>TTAATAC</u>AAAGTTGGCA (SEQ ID N0:48) GTTGAAAAATTATGTTTCAACCGT

attR21 GTTCAACTTT<u>TTAATAC</u>AAAGTTGT (SEQ ID N0:49) CAAGTTGAAAAATTATGTTTCAACA